Sept. 4th

John McCarthy
Born: Sept. 4, 1927;
Boston, Massachusetts
Died: Oct. 24, 2011

McCarthy was one of the four "founding fathers" of AI, along with Marvin Minsky [Aug 9], Allen Newell [March 19] and Herbert Simon [June 15], and coined the term. He organized the Dartmouth AI workshop in [June 18] 1956 and, with Minsky, established MIT's AI Lab in [Sept 00] 1959. He also created LISP [April 15], and was involved in the design of ALGOL [Jan 11].

"Colossal Typewriter" by McCarthy and Roland Silver was one of the earliest text line editors. The program first ran on the PDP-1 [Nov 00] at BBN [Oct 15] in Dec. 1960.

His influential 1959 memo on the possibilities of timesharing [Jan 1], persuaded MIT to embark on the development of the Multics timesharing OS [Nov 30].

John McCarthy (1960's). Early Stanford AI Lab People. Photo by Vaughan Pratt and Bruce Baumgart.

McCarthy grew impatient with what he saw as the sluggish pace of development at MIT (e.g. Multics was only completed in 1965), and disliked his reputation among the MIT administration as a "provocative and interesting wild man," (this, according to Fernando Corbato [July 1]), although he was affectionately referred to as "Uncle John" by his students. As a result, he moved across country in 1962 to Stanford where his AI Project grew into the Stanford AI Lab [Oct 19] in 1965.

One story recounts how McCarthy was giving a talk at Stanford when he was asked a question by visiting scholar, Tony Hoare [Jan 11]. McCarthy remarked that he had expected this query, summoned a guitar-carrying researcher from the AI Lab to the stage, and proceeded to answer in the form of a prepared song.

McCarthy once said that creating a "thinking machine" would require "1.8 Einsteins and one-tenth the resources of the Manhattan Project."

His USENET [Jan 29] .sig was, "He who refuses to do arithmetic is doomed to talk nonsense." One of his daughters presented him with a car license plate bearing that phrase.

Joseph A. Weisbecker
Born: Sept. 4, 1932;
New Jersey
Died: Nov. 15, 1990

Weisbecker was an early microprocessor researcher based at RCA [Nov 20], and a skilled toy and game designer. During 1970, he developed a 8-bit chip called FRED (Flexible Recreational Educational Device). which predates the better known Intel 4004 [Nov 15]. However, it was only after the commercial success of the 4004, that RCA released Weisbecker's work in 1975 as the RCA (or COSMAC) 1801.

At around this time, he also developed an educational development board, the RCA Microtutor, to teach computer concepts and programming. This became the basis of the COSMAC Elf project, published in *Popular Electronics* in [Aug 00] 1976.

The Elf employed the RCA 1802 chip, developed by a team led by Jerry Herzog. The 1802 went on to become popular in many space science programmes of the late 1970s, such as the Galileo spacecraft, the Hubble Space Telescope [Jan 22], and the Magellan Venus probe.

In the late 1950's Weisbecker was part of a small group that developed the RCA 501 [Feb 7], one of the first commercial, all transistor computers.

One of his most successful games was "Think-a-Dot" (1966), essentially a marble-activated network of eight flip-flops. It was sold by the E.S.R. company [Sept 30].

His daughter, Joyce, helped program many of his later prototypes, and is often considered to be the first female video game designer. Her first commercial game was "TV Schoolhouse I", a quiz game for the RCA II that she completed in just a week in Aug. 1976

Judea Pearl
Born: Sept. 4, 1936;
Tel Aviv, Israel

Pearl invented the Bayesian network, a formalism for defining complex probability models, and developed an associated theory of causal and counterfactual inference. This work revolutionized AI and has become an important tool in many branches of engineering.

His early work focused on combinatorial search, with new results for traditional search algorithms such as A*.

Pearl's interest in music includes several impromptu piano renditions at academic conferences, and a reputation as a skilled trumpet impersonator.

US Navy Bombes Funded
Sept. 4, 1942

America's need to decipher U-boat communications prompted the development of a US Navy bombe [March 18], based on plans obtained by Naval Lieutenants Robert Ely and Joseph Eachus from Bletchley Park [Aug 15] in July 1942.

Funding for the bombe ($2 million) was requested on Sept. 3, 1942 and approved on this day. As a result, National Cash Register Corporation (NCR) established the US Naval Computing Machine Lab in Dayton, Ohio, led by NCR's Joseph Desch. He was tasked with creating a fully electronic machine, but decided that was impractical – it would have required more than 70,000 valves.

Alan Turing [June 23] visited NCR on Dec. 21, 1942, and thought it unnecessary to build the 336 bombes that were planned; the order was scaled back to 96.

The first machine, tested on May 3, 1943, operated in much the same way as the British bombes, but its drum rotated at 1,725 rpm, over 30 times faster. On June 22, the first two completed devices, 'Adam' and 'Eve', broke a particularly difficult German naval cipher, the Offizier.

The US Army also developed their own bombes, but they (perhaps not unsurprisingly) were physically quite different from the US Navy machines.

SunOS Becomes Solaris
Sept. 4, 1991

Sun Microsystems [Feb 24] announced that it was replacing its BSD-derived UNIX [March 13], SunOS 4, with one based on UNIX System V Release 4 (SVR4 [Feb 14]); it would be called Solaris 2.

Solaris offered many fine new features, such as DTrace (dynamic tracing), ZFS (a combined file system and volume manager), and the Time Slider (for incremental snapshots of directories). It ran on both SPARC- [July 00] and x86-based workstations.

Solaris' (and Sun OS 4's) GUI, OpenWindows, supported both NeWS and X applications [June 19]. NeWS allowed applications to be built in an object-oriented way using PostScript [Dec 00].

In June 2005, Sun released most of Solaris' codebase as the OpenSolaris project. But after the company was acquired by Oracle [Aug 17] on Jan. 27, 2010, it stopped providing updates. In 2011, the Solaris 11 kernel was mysteriously leaked to BitTorrent [Aug 10].

Demoscenes
Sept. 4, 1992

The first major demoscene archive, the Internet Demo Site (ftp.uwp.edu), went live at the University of Wisconsin-Parkside.

Demoscenes are non-interactive multimedia presentations showcasing the skills of members of a Demogroup. Animations are computed in real time, which is quite a challenge considering the PC's average computing power at the time.

In 1994, the archive moved to hornet.eng.ufl.edu at the University of Florida, and became the Hornet Archive, where it hosted over 16,000 files during its heyday, most intended to run on MS-DOS [Aug 12]. The archive's weekly newsletter, DemoNews, ran to 150 episodes, and the site ran six international music contests.

Enigma Published
Sept. 4, 1995

The novel, "Enigma", by Robert Harris features Tom Jericho, a young mathematician trying to break the eponymous ciphers [Feb 23] at Bletchley Park [Aug 15] during WWII. Although supposedly based (loosely) on actual events in March 1943, the book was criticized as bearing little resemblance to the real wartime Bletchley.

The novel was adapted into a movie in 2001 by Michael Apted, with a screenplay by Tom Stoppard, and starring Dougray Scott and Kate Winslet. Winslet's character was disparaged by former Bletchley Park women for her poor attire.

Filming replaced Bletchley Park with Chicheley Hall in Buckinghamshire, and the name "Alan Turing" [June 23] was never mentioned, although there are several hints that Jericho is meant to be him.

The film was produced by Mick Jagger [Dec 7] of *The Rolling Stones*, who made a cameo appearance as an RAF officer.

Mick Jagger (1982). Photo by Marcel Antonisse / Anefo - Nationaal Archief. CC0.

Jagger also lent the film's design department his personal four-rotor Enigma machine. This M4 Enigma variant was first used by the German Navy for U-boat traffic on Feb. 1, 1942.

For more fast-and-loose Enigma movie action, "U-571" is worth a watch [May 9].